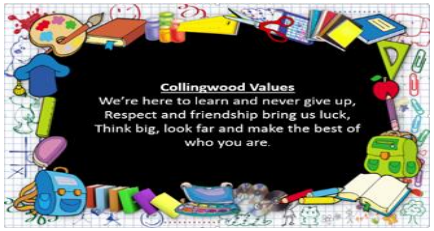
Computing at Collingwood Primary School

Through our computing curriculum at Collingwood, we prepare our pupils for the digital world. Generating life skills that will enable children to embrace and utilise new technology in a socially responsible and safe way in order to flourish.

Curriculum Drivers



Retrieval Practice

- Varied teaching and learning activities
- Carefully sequenced lessons building on small steps
- Specific teaching of vocabulary

Content and Sequencing

In EYFS children are taught to:

• Use the correct names for devices and simple parts of a computer

• Begin to understand what an algorithm is and how to use them with programmable toys

• Use a mouse and simple keyboard skills

In Key Stage 1 children are taught to:

• Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions.

• Write and test simple programs. They use logical reasoning to predict the behaviour of simple programs.

• Organise, store, manipulate and retrieve data in a range of digital formats.

• Communicate safely and respectfully online, keeping personal information private and recognise common uses of information technology beyond school.

In Key Stage 2 children are taught to:

• Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.

• Use sequence, selections and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs. Use logical reasoning to explain how a simple algorithm works, detect and correct errors in algorithms and programs.

• Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration.

• Describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely. Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Essentials

Computer Science: We learn the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.

Information Technology: Pupils understand that technology is everywhere and are able to identify the technology they encounter and understand how it works. Children are able to communicate and collaborate using cloud storage on the internet.

Digital Literacy: Pupils are able to use, and express themselves and develop their ideas through information and communication technology – at a level suitable for the future workplace and as active participants in a digital world. We also equip pupils with the knowledge to help them keep safe online by becoming a positive, responsible digital citizen.

Progress

Units of work are carefully sequenced, so prior knowledge and concepts are built upon.

Regular formative assessment and immediate feedback ensures gaps are filled.

Effective questioning and higher order thinking are embedded within all learning experiences.

Progress and attainment within units is recorded and shared with all teaching staff.

Opportunities for revisiting content or applying learning in greater depth.

Collingwood Primary - Whole School Computing Overview

	Autumn	Spring	Summer
EYFS	Mouse control, early keyboard skills, computing in our homes and use of programmable toys.		
Year 1	Keeping Safe and Exploring Technology Exploring digital Sound	Making multimedia stories Action algorithms!	An introduction to digital art Programming Direction
Year 2	An introduction to Animation Writing in different styles	Scratch Jr Beginning to present	Finding and presenting information Programming with Logo
Year 3	Digital literacy and online safety Communication and collaboration – Google drive and emailing	Machines and mechanisms - Lego WeDo Databases Animation with Scratch	Digital Imagery: Patterns in Nature Getting started with Kodu
Year 4	Digital literacy and online safety Searching the web	Sketch-up (3D design) Programming scratch games	Kodu Sports Manipulating Sound
Year 5	Digital literacy and online safety Scratch - retro games	Building Collaborative websites Computational thinking: Alien Contact	What is a computer? Programming Robots (LEGO EV3)
Year 6	Digital literacy and online safety Brain Training Spreadsheets	Creating Instructional Videos Getting started with the BBC micro:bit	Inside the Internet Digital Art: Manipulating images